

Product Information

Rhodamine 123

Catalog Number: R4056

Product Size: 50 mg

Application Scope: Mitochondrial staining

Parameters

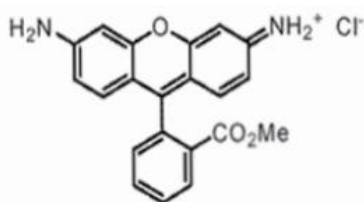
Appearance: Orange-red solid soluble in DMSO, DMF or MeOH

Ex/Em (MeOH): 505/534 nm

Molecular Formula: C₂₁H₁₇ClN₂O₃

Molecular Weight: 381

Molecular Structure:



Storage

Store at -20 °C and protect from light. When stored as directed, product is stable for at least 12 months.

Description

Rhodamine 123 is a cell-permeant, cationic, green-fluorescent dye that is readily sequestered by active mitochondria without cytotoxic effects. This product has been used to assay mitochondrial membrane potential in populations of apoptotic cells. In normal cells, it can rely on the mitochondrial transmembrane potential to enter the mitochondrial matrix, and the fluorescence intensity decreases or disappears. When apoptosis occurs, the integrity of the mitochondrial membrane is destroyed and the membrane permeability transport pores are opened. The membrane potential is reduced, and Rhodamine 123 releases mitochondria again, which emits strong

yellow-green fluorescence. Rhodamine can detect the change of mitochondrial or purified mitochondrial membrane potential by fluorescence microscope, fluorescence photometer or flow cytometer.

Protocol

1. Dyeing liquid preparation

A 1 mg/mL stock solution can be configured using MeOH or anhydrous DMSO and diluted to a working concentration of 0.1 µg/mL-50 µg/mL with PBS or culture medium.

Note: The specific incubation concentration and incubation time are different depending on the cells. It is recommended to set a set of gradients to explore the best experimental conditions.

2. Staining Cells

- (1) Collecting cells.
- (2) Add amount of Rhodamine 123 working solution to the cells, and make the cell density 1×10^6 / mL.
- (3) Incubate cells for 10-30 minutes at 37°C.
- (4) Discard Rhodamine 123 staining solution and wash twice the cells with medium or PBS.
- (5) Analyze fluorescence by fluorescence microscope, fluorescence photometer or flow cytometer.

Notes

1. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.
2. For your safety and health, please wear lab coats and disposable gloves.

